

Amendments to the specification:

Please replace the current title with the following amended title: **Method for Manipulating Data in a Group of Processing Elements According to Locally Maintained Counts.**

Please replace paragraph [0028] with the following amended paragraph:

[0028] FIGs. 13A and 13B illustrate one example of selected edge registers being loaded with the AND of selected columns; ~~and~~

Please replace paragraph [0029] with the following amended paragraph:

[0029] FIGs. 14A and 14B illustrate another example of a data broadcast[[.]] ; and

Please add the following new paragraph between paragraphs [0029] and [0030]:

[0029.1] FIG. 15 is a flow chart illustrating the steps of the process disclosed herein.

Please replace paragraph [0063] with the following amended paragraph:

[0063] In operation, an input matrix of data is placed on the shift network (See 100, FIG. 15), and moved around by using a combination of north, south, east and west shifts (110). In addition, the column select register 59 and row select register 61 may be used to determine which of the PEs is active. The exact combination of active PEs, instructions, and direction in which the instruction (shift) is performed will depend upon the particular array manipulation required. As the instructions are executed and the shifting proceeds, each PE will be presented with different array values. For example, if a wrap shift is performed a number of times equal to the number of PEs in a row, each PE in the row will see every value held by all of the other PEs in the row (115).

Please replace paragraph [0066] with the following amended paragraph:

[0066] The timing of the loading is achieved by maintaining a current count in a local counter, which is typically implemented in software. In one embodiment, the local counter is set to an initial value (See 120, FIG. 15). The local counter can be set in a variety of ways, including loading the counter with the initial value or calculating the initial value locally based on the processing element's location in the matrix (or array) and the function being performed on the data. Thereafter, at certain points in the shifting process, the counter is decremented (130). For example, the counter may be decremented once for each shift that occurs, or may be decremented once per n clock cycles where n clock cycles equals one shift. As stated, the initial value of the counter depends on its position in the matrix or array and is given by the general function $f(\text{Row_Index}, \text{Col_Index})$, where the exact form of $f()$ will depend on the particular array manipulation required. When the counter reaches a non-positive value (i.e., zero or negative)(135) the PE selects the data to be loaded into the output matrix (140).